

### Abstract

An *in vivo* assay system for identifying chemical compounds that inhibit or promote a biological event is described. Test compounds may be assayed for their ability to induce the expression of a reporter gene which subsequently leads to the production of a reporter gene product. Preferably the reporter gene product is secreted from the cell or is membrane permeable so that the product is readily detectable. The signal from the reporter gene is preferably amplifiable so that even minute changes in expression of the reporter gene are detectable. The present invention also provided combinatorial libraries for use in the inventive assay system.